ABSTRACT

A method for cortical mapping includes utilizing subdural electrodes as selectable stimulus points in a closed loop system of cortical mapping based on

5   electromyographic detection events. A system for cortical mapping includes a plurality of subdural electrodes formed as a grid, a cortical stimulator for stimulating individual pairs of the plurality of subdural electrodes, and an electromyograph for detecting reaction to the stimulating. The system may include a controller structured for associating the reaction with one of the individual pairs of the plurality of subdural

10   electrodes. The system and method allow quick and accurate functional mapping of an area of the brain, automatic mapping, and essentially realtime feedback for a probe localization process. Use of the system and method provides intraoperative functional localization while reducing a possibility of adverse effects to the patient.

15

20

25